

DETAILED ACTION

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

1. Claims 1-3, 8, 10 & 12 are rejected under 35 U.S.C. 103(a) as being unpatentable over Kane (US 6,166,894) in view of Daoud et al. (US 5,844,785).

With regard to claim 1, Kane, in Figure 3, discloses an overvoltage protection magazine for a telecommunication device, comprising a housing (12) having a top and a bottom, a printed circuit board (14) having a front and a rear, two or more surge arresters (25d), each surge arrester including outer electrodes (15); and at least one ground contact (20), the surge arresters being arranged on the printed circuit board and being passed via conductor tracks (See Fig. 3) to contact pads (18) arranged on the printed circuit board and which, when plugged in, come into electrical contact with contacts of the telecommunications device, wherein the surge arresters are arranged in a row; wherein a lower region of the printed circuit board defines cutouts (16) that form plug-in regions corresponding to the surge arresters, wherein the outer electrodes of the surge arresters are associated with the corresponding plug-in region via the conductor

tracks, wherein each plug- in region includes a contact pad for each outer electrode of the corresponding surge arrester (see Fig. 3).

Kane does not teach having each contact pad being arranged on the front and rear of the printed circuit board.

Daoud et al., in Figure 4, teaches an overvoltage protection magazine for a telecommunication device wherein surge arrestors are plugged into a connecting block. The surge arrestors (22) are arranged on a PCB (26). The PCB has contacts (43 & 44) which make contact with a connector block. Daoud teaches that the contacts are arranged on the front and rear of the printed circuit board (fig. 4).

It would have been obvious to one of ordinary skill in the art at the time the invention was made to combine the teachings of Kane with Daoud, by placing the contacts of Kane on both the front and rear of the PCB, for the purpose of decreasing the width of the cutout regions, thus allowing more surge arrestors to be place on the board, or to decrease the size of the board.

With regard to claims 2, 3, 8, 10 & 12, Kane in view of Daoud discloses the device of claim 1. Kane further discloses that the surge arresters are in the form of SMD surge arresters (column 2 lines 35-38) (re claim 2), wherein the housing is integral (re claim 3), wherein the housing is provided with a slot on at least one of end sides of the housing (for the ground contact 20 to pass through) (re claim 8), wherein the surge arresters are fail-safe (re claim 10), wherein the bottom of the housing is provided with cutouts in the region of the ground contacts (see figs. 1 & 2) (re claim 12).

2. Claims 4 & 5 are rejected under 35 U.S.C. 103(a) as being unpatentable over Kane in view of Daoud as applied to claim 1 above and further in view of Thalhammer (EP 0410140).

With regard to claim 4, Kane in view of Daoud teaches the over voltage protection magazine of claim 3.

Kane in view of Daoud does not teach that the housing is open at the top and covered by an insulator strip.

Thalhammer, in Figure 1, teaches an over voltage protection magazine wherein the housing is open at the top and covered by an insulator strip.

It would have been obvious to one of ordinary skill in the art at the time the invention was made to combine the teachings of Kane in view of Daoud with Thalhammer, by incorporating the strip of Thalhammer into the device of Kane, for the purpose of allowing the device to be opened with bare fingers thus making it easier to service the device.

With regard to claim 5, Kane in view of Daoud and Thalhammer discloses the device of claim 4. Thalhammer, in figure 2, further discloses that the inner sides of the housing are provided with supports for the insulator strip.

3. Claims 6 & 7 are rejected under 35 U.S.C. 103(a) as being unpatentable over Kane in view of Daoud and Thalhammer as applied to claim 4 above, and further in view of Stephan et al. (US 5,755,026).

With regard to claim 6, Kane in view of Daoud and Thalhammer teaches the device of claim 4.

Kane in view of Daoud and Thalhammer does not teach that the housing is provided with semicylindrical recesses, which are provided with slots in a region adjacent the top of the housing, the insulator strip being passed between the slots.

Stephan et al, in Figure 1 & 2, teaches a device wherein the housing (14) is provided with semicylindrical recesses (15), which are provided with slots in a region adjacent the top of the housing, a top cover (24) strip being passed between the slots.

It would have been obvious to one of ordinary skill in the art at the time the invention was made to combine the teachings of Kane in view of Daoud and Thalhammer with Stephan et al., by incorporating the recesses of Stephan et al. into the device of Kane in view of Thalhammer, for the purpose of fitting the strip into the housing without requiring the molded on pivot pin (6) thus reducing the complexity of the device saving cost.

With regard to claim 7, Kane in view of Daoud and Thalhammer discloses the device of claim 4. Stephan et al. further discloses that the edges at the top of the housing are set back at the sides such that the cover is flush with the top of the housing.

It would have been obvious to one of ordinary skill in the art at the time the invention was made to combine the teachings of Kane in view of Thalhammer with Stephan et al. as described above.

4. Claim 9 is rejected under 35 U.S.C. 103(a) as being unpatentable over Kane in view of Daoud as applied to claim 1 above, and further in view of DeBalko et al. (US 5,175,662).

With regard to claim 9, Kane in view of Daoud teaches the device of claim 1. Kane further teaches that the ground contact is in the form of a fork contact.

Kane in view of Daoud does not teach that the ground contact is in the form of a fork contact and is connected to the printed circuit board via the fork contact.

DeBalko et al., in Figure 2, teaches a surge arrestor device wherein a printed circuit board is coupled to a contact via a fork contact (24, 25, 51 & 52).

It would have been obvious to one of ordinary skill in the art at the time the invention was made to combine the teachings of Kane in view of Daoud with DeBalko et al., by incorporating the connection scheme of DeBalko et al., for the purpose of easily constructing the device wherein the device can be constructed by hand thus saving time.

5. Claim 11 rejected under 35 U.S.C. 103(a) as being unpatentable over Kane in view of Daoud as applied to claim 1 above and further in view of Smith (US 4,496,803).

With regard to claim 11, Kane in view of Daoud teaches the device of claim 1.

Kane in view of Daoud does not teach that the contact pads of the printed circuit board are made of silver.

Smith teaches a circuit wherein the contact pads of the printed circuit board are made of silver (column 3 lines 9-18).

It would have been obvious to one of ordinary skill in the art at the time the invention was made to combine the teachings of Kane in view of Daoud with Smith, by incorporating the silver contacts of Smith into the device of Kane, for the purpose of improving conductivity and reliability of the electrical connection.

6. Claims 13, 14 & 16 are rejected under 35 U.S.C. 103(a) as being unpatentable over Kane (US 6,166,894) in view of Filus et al. (US 5,643,014).

With regard to claim 13, Kane teaches an overvoltage protection magazine (10) for a telecommunication device, the overvoltage protection magazine comprising: a printed circuit board (14) extending from a first end to a second end, the first end forming separate plug-in regions (16), each plug-in region defining a first contact pad and a second contact pad (18); a plurality of surge arresters (25) mounted to the printed circuit board, each surge arrester including first and second outer electrodes (15) that couple to the first and second contact pads, respectively, of a corresponding one of the plug-in regions; and an integral housing (12) defining an interior configured to receive the printed circuit board with the surge arresters, the integral housing having a first side

defining a plurality of openings configured to receive the plug-in regions of the printed circuit board (as seen in Fig. 2, the circuit board 16 extended through the housing 12).

Kane does not teach that the first side of the integral housing also including closed webs arranged to extend between the plug-in regions when the printed circuit board is arranged within the integral housing and slotted webs arranged to extend over the plug-in regions when the printed circuit board is arranged within the integral housing.

Filus, in Figures 1 & 5, teaches a method for mounting surge suppressors onto a connector block, the surge arrestors and place within an integral housing defining an interior configured to receive surge arresters, the integral housing having a first side (14) defining a plurality of openings configured to receive plug-in regions of the surge protector with the first side of the integral housing also including closed webs arranged to extend between the plug-in regions (60) when the surge protector is arranged within the integral housing and slotted webs arranged to extend over the plug-in regions when the printed circuit board is arranged within the integral housing as seen in Fig. 5.

It would have been obvious to one of ordinary skill in the art at the time the invention was made to combine the teachings of Kane with Filus, by using the web section of Filus to extend between the plug in regions of Kane, for the purpose of preventing the plug in regions from damage.

With regard to claims 14 & 16, Kane in view of Filus discloses the device of claim 13. Kane further discloses that the surge arresters are fail-safe (re claim 14), wherein

the surge arresters are in the form of SMD surge arresters (column 2 lines 35-38) (re claim 16).

7. Claim 15 rejected under 35 U.S.C. 103(a) as being unpatentable over Kane in view of Filus as applied to claim 13 above, and further in view of Smith.

With regard to claim 15, Kane in view of Filus teaches the device of claim 13.

Kane in view of Filus does not teach that the contact pads of the printed circuit board are made of silver.

Smith teaches a circuit wherein the contact pads of the printed circuit board are made of silver (column 3 lines 9-18).

It would have been obvious to one of ordinary skill in the art at the time the invention was made to combine the teachings of Kane in view of Filus with Smith, by incorporating the silver contacts of Smith into the device of Kane, for the purpose of improving conductivity and reliability of the electrical connection.

8. Claim 17 is rejected under 35 U.S.C. 103(a) as being unpatentable over Kane in view of Filus as applied to claim 13 above, and further in view of Thalhammer.

With regard to claim 17, Kane in view of Filus teaches the over voltage protection magazine of claim 3.

Kane in view of Filus does not teach that the integral housing defines a second side covered by an insulator strip

Thalhammer, in Figure 1, teaches an over voltage protection magazine wherein the integral housing defines a second side covered by an insulator strip

It would have been obvious to one of ordinary skill in the art at the time the invention was made to combine the teachings of Kane in view of Daoud with Thalhammer, by incorporating the strip of Thalhammer into the device of Kane, for the purpose of allowing the device to be opened with bare fingers thus making it easier to service the device.

9. Claims 18-20 are rejected under 35 U.S.C. 103(a) as being unpatentable over Kane in view of Filus and Thalhammer as applied to claim 17 above, and further in view of Stephan.

With regard to claims 18 -20, Kane in view of Filus and Thalhammer teaches the device of claim 17.

Kane in view of Filus and Thalhammer does not teach that the insulator strip is flush with the second side of the integral housing, wherein sides of the integral housing define semicylindrical recesses and wherein the semicylindrical recesses define slots sized to receive the insulator strip.

Stephan et al, in Figure 1 & 2, teaches a device wherein an insulator strip (24) is flush with the second side of the integral housing (14) , wherein sides of the integral

housing define semicylindrical recesses (15) and wherein the semicylindrical recesses define slots sized to receive the insulator strip.

It would have been obvious to one of ordinary skill in the art at the time the invention was made to combine the teachings of Kane in view of Filus and Thalhammer with Stephan et al., by incorporating the recesses of Stephan et al. into the device of Kane in view of Filus and Thalhammer, for the purpose of fitting the strip into the housing without requiring the molded on pivot pin (6) thus reducing the complexity of the device saving cost.

Response to Arguments

10. Applicant's arguments with respect to claims 1-12 have been considered but are moot in view of the new ground(s) of rejection.

Conclusion

Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any

extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to SCOTT BAUER whose telephone number is (571)272-5986. The examiner can normally be reached on M-F 9am-6pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Michael Sherry can be reached on 571-272-2084. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Michael J Sherry/
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Application/Control Number: 10/553,314
Art Unit: 2836

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